DECISION AND FINDING OF NO SIGNIFICANT IMPACT

ENVIRONMENTAL ASSESSMENT: AQUATIC RODENT DAMAGE MANAGEMENT IN MISSISSIPPI

PURPOSE AND NEED FOR ACTION

The United States Department of Agriculture (USDA), Animal and Plant Health Inspection Service (APHIS), Wildlife Services (WS) program and the Tennessee Valley Authority (TVA) prepared an Environmental Assessment (EA) to analyze the potential impacts to the quality of the human environment associated with alternative approaches to resolving damage and threats of damage associated with beaver (*Castor canadensis*), muskrats (*Ondatra zibethicus*), and nutria (*Myocastor coypus*)[1] (USDA 2015). The EA and this Decision ensures that WS complies with the National Environmental Policy Act (NEPA), with the Council on Environmental Quality guidelines (see 40 CFR 1500), and with the APHIS' NEPA implementing regulations (see 7 CFR 372). WS has previously developed an EA that analyzed the need for action to manage damage associated with aquatic rodents in the State (USDA 2003). Since activities conducted under the previous EA were re-evaluated under the new EA to address the new need for action and the associated affected environment, the previous EA that addressed managing damage caused by aquatic rodents will be superseded by the outcome of this Decision for the new EA.

Responding to constituent's complaints and requests in Mississippi, the 1989 Mississippi Legislature created the beaver control advisory board. This board is comprised of the heads of the cooperating state agencies and non-governmental organization and is mandated to develop a program that ensures the management of beaver damage. In cooperation with the WS program, the advisory board developed the Beaver Control Assistance Program. The Mississippi Department of Transportation, the Mississippi Department of Agriculture and Commerce, the Mississippi Forestry Commission, county governments, and private landowners collectively fund the Beaver Control Assistance Program.

The need for action identified in Section 1.2 of the new EA arises from requests for assistance that WS receives as a member of the Beaver Control Assistance Program. In addition, WS also receives requests for assistance associated with damage or threats of damage caused by muskrats and nutria in the State. Beaver, muskrats, and nutria occur in similar aquatic habitats and many of the methods to reduce damage or threats of damage associated with those aquatic rodents are similar. The EA evaluates the need for action to manage damage associated with aquatic rodents, the potential issues associated with managing damage, and the environmental consequences of conducting different alternatives to meet the need for action while addressing the identified issues. WS and the TVA defined the issues associated with meeting the need for action and identified preliminary alternatives through consultation with the Mississippi Department of Wildlife, Fisheries, and Parks (MDWFP). The EA analyzes three alternatives in detail to meet the need for action and to address the issues analyzed in detail. Section 1.7 of the EA identified several decisions to be made based on the scope of the EA.

AFFECTED ENVIRONMENT AND ISSUES

Aquatic rodent damage or threats of damage could occur statewide in Mississippi wherever those species occur. Beaver, nutria, and muskrats are semi-aquatic species that are capable of utilizing a variety of aquatic habitats in the State. Beaver, nutria, and muskrats occur throughout the year across the State where suitable aquatic habitat exists for foraging and shelter.

[1]The EA and this document will collectively refer to those mammal species as aquatic rodents.

Issues are concerns regarding potential effects that might occur from a proposed activity. Federal agencies must consider such issues during the NEPA decision-making process. Section 2.2 of the EA describes the issues considered and evaluated in detail by WS and the TVA as part of the decision-making process. In addition to those issues analyzed in detail, several issues were identified during the development of the EA but were not considered in detail. The rationale for the decision not to analyze those issues in detail is discussed in Section 2.3 of the EA. To identify additional issues and alternatives, WS and the TVA made the EA available to the public for review and comment through notices published in local media and through direct notification of interested parties. WS and the TVA made the EA available to the public for review and comment by a legal notice published in the *Clarion Ledger* newspaper from March 16, 2015 through March 18, 2015. WS and the TVA also made the EA available to the public for review and comment on the APHIS website beginning on March 10, 2015. WS also sent a notice of availability directly to agencies, organizations, and individuals with probable interest in managing aquatic rodents in the State. The public involvement process ended on April 24, 2015. WS and the TVA did not receive comment letters during the public comment period.

ALTERNATIVES

The EA evaluated three alternatives in detail to respond to the issues identified in Chapter 2 of the EA. Section 3.1 of the EA provides a description of the alternatives evaluated in detail. A detailed discussion of the effects of the alternatives on the issues occurs in Chapter 4 of the EA. Additional alternatives were also considered but were not evaluated in detail with rationale provided in Section 3.2 of the EA. WS would incorporate those standard operating procedures discussed in Section 3.3 and Section 3.4 of the EA into activities if the decision-maker selected the proposed action alternative (Alternative 1) and when applicable, under the technical assistance alternative (Alternative 2), if selected. If the decision-maker selected the no involvement by WS alternative (Alternative 3), the lack of assistance by WS would preclude the employment or recommendation of those standard operating procedures addressed in the EA.

ENVIRONMENTAL CONSEQUENCES

Section 4.1 of the EA analyzes the environmental consequences of each alternative as that alternative related to the issues identified to provide information needed for making informed decisions in selecting the appropriate alternative to address the need for action. Section 4.1 of the EA analyzes the environmental consequences of each alternative in comparison to determine the extent of actual or potential impacts on those major issues identified in the EA. The proposed action/no action alternative (Alternative 1) served as the baseline for the analysis and the comparison of expected impacts among the alternatives.

The following resource values in Mississippi are not expected to be significantly impacted by any of the alternatives analyzed in the EA: soils, geology, minerals, water quality/quantity, flood plains, wetlands, critical habitats (areas listed in threatened and endangered (T&E) species recovery plans), visual resources, air quality, prime and unique farmlands, aquatic resources, timber, and range. The activities proposed in the alternatives would have a negligible effect on atmospheric conditions including the global climate. Meaningful direct or indirect emissions of greenhouse gases would not occur as a result of any of the alternatives. Those alternatives would meet the requirements of applicable laws, regulations, and Executive Orders, including the Clean Air Act and Executive Order 13514. The discussion below is a summary of the environmental consequences of the alternatives for each of the issues analyzed in detail.

Issue 1 - Effects of Damage Management Activities on Target Aquatic Rodent Populations

Under the proposed action, WS would incorporate non-lethal and lethal methods described in Appendix B of the EA into an integrated approach in which WS' personnel could employ all or a combination of

methods to resolve a request for assistance. Non-lethal methods can disperse, exclude, or otherwise make an area unattractive to aquatic rodents that are causing damage; thereby, potentially reducing the presence of those animals at the site and potentially the immediate area around the site. Non-lethal methods generally have minimal impacts on overall populations of wildlife since those species are unharmed.

A common issue is whether damage management actions would adversely affect the populations of target aquatic rodent species when WS' employees employ lethal methods. Lethal methods can remove specific aquatic rodents identified as causing damage or posing a threat to human safety. The number of aquatic rodents removed from a population by WS using lethal methods would be dependent on the number of requests for assistance received, the number of aquatic rodents involved with the associated damage or threat, the efficacy of methods employed, and the number of individual animals the MDWFP authorizes WS to remove, when required. Based on those quantitative and qualitative parameters addressed in the EA, the anticipated number of aquatic rodents that WS' employees could lethally remove annually to address requests for assistance under the proposed action alternative (Alternative 1) would be of low magnitude when compared to population trend data, population estimates, and/or harvest data.

Those people experiencing damage or threats could remove aquatic rodents themselves under any of the alternatives when the MDWFP authorizes the removal, when authorization is required. For example, the MDWFP currently allows private property owners to remove beaver and nutria on their property at any time when those species are causing damage. Therefore, other entities could remove those animals WS lethally removes annually to alleviate damage in the absence of involvement by WS. In addition, a resource owner could seek assistance from private businesses to remove aquatic rodents causing damage or remove animals during the regulated hunting and/or trapping seasons in the State. Since the lack of WS' direct involvement does not preclude the lethal removal of aquatic rodents by those persons experiencing damage or threats, WS' involvement in the lethal removal of those aquatic rodents under the proposed action would not be additive to the number of aquatic rodents that could be removed by other entities in the absence of WS' involvement. The number of aquatic rodents lethally removed annually would likely be similar across the alternatives, since the removal of aquatic rodents could occur even if WS was not directly involved with providing assistance under Alternative 2 and Alternative 3. WS does not have the authority to regulate the number of aquatic rodents lethally removed annually by other entities.

Issue 2 - Effects on Non-target Wildlife Species Populations, Including T&E Species

Personnel from WS have experience with managing wildlife damage and receive training in the employment of methods. WS' employees would use the WS Decision Model to select the most appropriate methods to address damage caused by targeted animals and to exclude non-target species. To reduce the likelihood of capturing non-target wildlife, WS would employ the most selective methods for the target species, would employ the use of attractants that were as specific to target species as possible, and determine placement of methods to avoid exposure to non-targets. Section 3.3 and Section 3.4 in the EA discusses the standard Operating Procedures that WS' personnel would follow to prevent and reduce any potential adverse effects on non-targets. Despite the best efforts to minimize non-target exposure to methods during program activities, the potential for WS' personnel to disperse or lethally remove non-targets exists when applying both non-lethal and lethal methods to manage damage or reduce threats to safety.

The unintentional removal or capture of animals during damage management activities conducted under the proposed action alternative would primarily be associated with the use of body-gripping traps and in some situations, with live-capture methods, such as foothold traps, cage traps, and cable restraints. The non-targets lethally removed unintentionally by WS from FY 2009 through FY 2013 are representative of

non-targets that WS' personnel could lethally remove under the proposed action alternative (see Section 4.1 of the EA). WS could also lethally remove additional species of non-targets unintentionally.

Although WS' employees could lethally remove non-target animals, removal of individuals from any species is not likely to increase substantially. WS would continue to monitor activities, including non-target animal removal, to ensure the annual removal of non-target animals would not result in adverse effects to a species' population. Most of the non-target animals that WS' employees lethally removed unintentionally from FY 2009 through FY 2013 are species that people can harvest during annual fishing, hunting, and/or trapping seasons. WS' limited unintentional removal of those species when compared to the harvest level of those species would be of low magnitude. WS' personnel have not captured or adversely affected any threatened or endangered species during previous activities conducted in Mississippi.

The ability of people to reduce damage and threats caused by aquatic rodents would be variable under Alternative 2 and Alternative 3, since the skills and abilities of the person implementing damage management actions or the availability of other entities capable of providing assistance could determine the level of success in resolving damage or the threat of damage. If people or other entities apply those methods available as intended, risks to non-targets would be similar to Alternative 1. If people or other entities apply methods available incorrectly or apply those methods without knowledge of wildlife behavior, risks to non-target wildlife would be higher under any of the alternatives. If frustration from the lack of available assistance under Alternative 2 and Alternative 3 caused those people experiencing aquatic rodent damage to use methods that were not legally available for use, risks to non-targets would be higher under those alternatives. People have resorted to the use of illegal methods to resolve wildlife damage that have resulted in the lethal removal of non-target wildlife.

WS has determined that the proposed activities "*may affect*" several species listed as threatened or endangered within the State by the United States Fish and Wildlife Service and the National Marine Fisheries Service but those effects would be solely beneficial, insignificant, or discountable. Therefore, those effects would warrant a "*not likely to adversely affect*" determination for those species (see Table 4.11 in Section 4.1 of the EA). In addition, WS has made a "*no effect*" determination for several species currently listed as threatened or endangered in the State based on those methods currently available and based on current life history information for those species.

The WS' program in Mississippi would also abide by the following conditions when conducting activities to alleviate the damage that aquatic rodent cause in the State:

- Avoid working in ponds where Mississippi gopher frogs (*Rana capito sevosa*) are known to occur, avoid working in streams with listed mussels, fish, or turtles, and avoid Mississippi sandhill crane (*Grus canadensis pulla*) nesting areas
- When conducting ground-disturbing activities, the project site should be surveyed for potential roosting locations of threatened or endangered bat species, such as culverts, underpasses, caves, abandoned mines and buildings, wells, and snags. Because methods can disturb roosting bats offsite and result in abandonment of an area, activities should be conducted 500 yards away from any identified or potential roosting areas
- In vegetated wetland areas, surveys for Mitchell's satyr butterflies (*Neonympha mitchellii mitchellii*), Price's potato bean (*Apios priceana*), pondberry (*Lindera melissifolia*), and Louisiana quillwort (*Isoetes louisianensis*) should be conducted, if suitable habitat were present
- Forested areas with suitable habitat for red-cockaded woodpeckers (*Picoides borealis*) should be surveyed
- Areas with suitable soils and vegetation should be surveyed for gopher tortoises (*Gopherus polyphemus*)

- Louisiana black bear (*Ursus americanus luteolus*) breeding areas have been documented along the Mississippi River and no activities should take place during the breeding season in those locations

Pursuant to Section 7 of the ESA, WS consulted with the United States Fish and Wildlife Service on those effects analysis and determinations. The USFWS concurred with those effects determination made by WS (K. Lunceford, USFWS pers. comm. 2014). In addition, WS has reviewed those species considered threatened or endangered by the Mississippi Museum of Natural Resources (see Appendix C of the EA) and determined the proposed action would have no effect on any of those species listed within the State.

Issue 3 - Effects of Damage Management Methods on Human Health and Safety

The threats to human safety of methods available would be similar across the alternatives since the same methods would be available across the alternatives. However, the expertise of WS' employees in using those methods available likely would reduce threats to human safety since WS' employees would be trained and knowledgeable in the use of those methods. If methods were used incorrectly or without regard for human safety, risks to human safety would increase under any of the alternatives that those methods could be employed. Although risks do occur from the use of those methods available, when people use those methods in consideration of human safety, the use of those methods would not pose additional risks beyond those associated with the use of other methods. No adverse effects to human safety occurred from WS' use of methods to alleviate aquatic rodent damage in the State from FY 2009 through FY 2013.

Issue 4 - Effects on the Aesthetic Values of Aquatic Rodents

Aquatic rodents may provide aesthetic enjoyment to some people in the State, such as through observations, photographing, and knowing they exist as part of the natural environment. Methods available that could be employed under each of the alternatives would result in the dispersal, exclusion, or removal of individuals or small groups of aquatic rodents to resolve damage and threats. Therefore, the use of methods often results in the removal of aquatic rodents from the area where damage was occurring or the dispersal of aquatic rodents from an area. Since methods available would be similar across the alternatives, the use of those methods would have similar potential impacts on the aesthetics of aquatic rodents. However, even under the proposed action alternative, the dispersal and/or lethal removal of aquatic rodents under the alternatives would not reach a magnitude that would prevent the ability to view those species outside of the area where damage was occurring. The effects on the aesthetic values of aquatic rodents would therefore be similar across the alternatives and would be minimal.

Issue 5 - Humaneness and Animal Welfare Concerns of Methods

The issue of humaneness was also analyzed in detail in relationship to methods available under each of the alternatives. Since many methods addressed in Appendix B of the EA would be available under all the alternatives, the issue of method humaneness would be similar for those methods across all the alternatives. As stated previously, immobilizing drugs and euthanasia chemicals would be the only methods that would have limited availability to all entities under the alternatives. The ability of WS to provide direct operational assistance under the proposed action alternative would ensure methods were employed by WS' personnel as humanely as possible. Under the other alternatives, other entities could use methods inhumanely if used inappropriately or without consideration of aquatic rodent behavior. However, the skill and knowledge of the person implementing methods to resolve damage would determine the efficacy and humaneness of methods. A lack of understanding of the behavior of aquatic rodents or improperly identifying the damage caused by aquatic rodents along with inadequate knowledge and skill in using methodologies to resolve the damage or threat could lead to incidents with a greater

probability of other people perceiving the action as inhumane under Alternative 2 and Alternative 3. Despite the lack of involvement by WS under Alternative 3 and WS' limited involvement under Alternative 2, those methods perceived as inhumane by certain individuals and groups would still be available for use by the public to resolve damage and threats caused by aquatic rodents.

Issue 6 - Effects of Damage Management Activities on the Regulated Harvest of Aquatic Rodents

The MDWFP considers beaver and nutria "*nuisance animals*" in Mississippi and landowners, leaseholders, or their designated agents can lethally remove beaver and nutria throughout the year on lands they own or lease. People can also harvest muskrats during regulated trapping seasons within the State. The magnitude of lethal removal addressed in the proposed action (Alternative 1) would be low when compared to the mortality of those aquatic rodent species from all known sources. Based on the limited removal proposed by WS and the oversight by the MDWFP, WS' removal annually would have no effect on the ability of those persons interested to harvest aquatic rodents. WS would have no impact on the ability to harvest those species under Alternative 2 and Alternative 3 since WS would only provide technical assistance under Alternative 2 and no assistance under Alternative 3. However, resource/property owners may remove aquatic rodents under Alternative 2 and Alternative 3 resulting in impacts similar to the proposed action alternative. The MDWFP could continue to regulate aquatic rodent populations through adjustments in allowed removal during the regulated harvest season and through permits to manage damage or threats of damage.

Issue 7 – Effects of Beaver Removal and Dam Manipulation on the Status of Wetlands in the State

If water remains impounded behind a beaver dam, hydric soils and hydrophytic vegetation may eventually form. This process can take anywhere from several months to years depending on pre-existing conditions. Hydric soils are those soils that are saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions. In general, hydric soils form much easier where wetlands have preexisted. Hydrophytic vegetation includes those plants that grow in water or on a substrate that is at least periodically deficient in oxygen because of excessive water content. If those conditions occur, then a wetland has developed that would have different wildlife habitat values than an area more recently impounded by beaver dam activity.

Requests from public and private individuals and entities that WS receives involve dam removal or breaching to return an area back to its pre-existing condition within months after beaver created the dam. If the area does not have hydric soils, it usually takes many years for them to develop and a wetland to become established. Upon receiving a request to remove/breach beaver dams, WS' personnel would visually inspect the dam and the associated water impoundment to determine if characteristics exist at the site that would meet the definition of a wetland under section 404 of the Clean Water Act. If wetland conditions were present at the site, WS' employees would notify the entities requesting assistance from WS that a permit might be required to remove/breach the dam. WS' employees would recommend the property owner or manager seek guidance from the Mississippi Department of Environmental Quality and the United States Army Corps of Engineers pursuant to Mississippi State Law and the Clean Water Act. Entities experiencing threats or damage due to flooding could manipulate water levels associated with beaver dams in the absence of WS' assistance. Those methods addressed in the EA would be available to other entities to breach or remove dams, including explosives and water flow devices.

CUMULATIVE IMPACTS OF THE PROPOSED ACTION

No significant cumulative environmental impacts are expected from any of the three alternatives, including the proposed action. Under the proposed action, the lethal removal of aquatic rodents by WS would not have significant impacts on statewide populations of those species when known sources of

mortality are considered. No risk to public safety is expected when activities are provided under Alternative 1 and Alternative 2 since only trained and experienced personnel would conduct and/or recommend damage management activities. There is a slight increased risk to public safety when persons who reject assistance and recommendations and conduct their own activities under Alternative 2, and when no assistance is provided under Alternative 3. However, under all of the alternatives, those risks would not be to the point that the impacts would be significant. The analysis in the EA indicates that an integrated approach to managing damage and threats caused by aquatic rodents would not result in significant cumulative adverse effects on the quality of the human environment.

DECISION AND RATIONALE

I have carefully reviewed the EA prepared to meet the need for action. I find the proposed action/no action alternative (Alternative 1) to be environmentally acceptable, addressing the issues and needs while balancing the environmental concerns of management agencies, landowners, advocacy groups, and the public. The analyses in the EA adequately address the identified issues, which reasonably confirm that no significant impact, individually or cumulatively, to wildlife populations or the quality of the human environment are likely to occur from the proposed action, nor does the proposed action constitute a major federal action. Therefore, the analysis in the EA does not warrant the completion of an Environmental Impact Statement.

Based on the analyses in the EA, the issues identified are best addressed by selecting Alternative 1 (proposed action/no action) and applying the associated standard operating procedures discussed in Chapter 3 of the EA. Alternative 1 successfully addresses (1) managing damage using a combination of the most effective methods and does not adversely impact the environment, property, human health and safety, target species, and/or non-target species, including T&E species; (2) it offers the greatest chance of maximizing effectiveness and benefits to resource owners and managers; (3) it presents the greatest chance of maximizing net benefits while minimizing adverse impacts to public health and safety; and (4) it offers a balanced approach to the issues of humaneness and aesthetics when all facets of those issues are considered. Further analysis would be triggered if changes occur that broaden the scope of damage management activities in the State, that affect the natural or human environment, or from the issuance of new environmental regulations. Therefore, it is my decision to implement the proposed action/no action alternative (Alternative 1) as described in the EA.

Finding of No Significant Impact

Based on the analyses provided in the EA, there are no indications that the proposed action/no action alternative (Alternative 1) would have a significant impact, individually or cumulatively, on the quality of the human environment. I agree with this conclusion and therefore, find that an Environmental Impact Statement should not be prepared. This determination is based on the following factors:

1. WS' activities to manage damage in the State would not be regional or national in scope.

2. Based on the analyses in the EA, the methods available under the proposed action would not adversely affect human safety based on their use patterns.

3. There are no unique characteristics such as park lands, prime farm lands, wetlands, wild and scenic areas, or ecologically critical areas that would be significantly affected. WS' standard operating procedures and adherence to applicable laws and regulations would further ensure that WS' activities do not harm the environment.

4. The effects on the quality of the human environment are not highly controversial. Although there is some opposition to managing damage and the methods, this action is not highly controversial in terms of size, nature, or effect.

5. Based on the analysis documented in the EA and the accompanying administrative file, the effects of the proposed damage management program on the human environment would not be significant. The effects of the proposed activities are not highly uncertain and do not involve unique or unknown risks.

6. The proposed action would not establish a precedent for any future action with significant effects.

7. No significant cumulative effects were identified through the assessment. The EA analyzed cumulative effects and concluded that such impacts were not significant for this or other anticipated actions to be implemented or planned within the State of Mississippi.

8. The proposed activities would not affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places, nor would they likely cause any loss or destruction of significant scientific, cultural, or historical resources.

9. WS has consulted with the United States Fish and Wildlife Service regarding affects to threatened or endangered species in the State and they have concurred with WS' determinations. In addition, WS has determined that the proposed activities would have no effect on State-listed species.

10. The proposed action would be in compliance with all applicable federal, state, and local laws.

The rationale for this decision is based on several considerations. This decision takes into account public comments, social/political and economic concerns, public health and safety, and the best available science. The foremost considerations are that: 1) damage management would only be conducted by WS at the request of landowners/managers, 2) management actions would be consistent with applicable laws, regulations, policies and orders, and 3) no adverse effects to the environment were identified in the analysis. As a part of this Decision, the WS program in Mississippi would continue to provide effective and practical technical assistance and direct management techniques that reduces damage and threats of damage.

7/1/15

Charles S. Brown, Director-Eastern Region
USDA/APHIS/WS
Raleigh, North Carolina

Date

LITERATURE CITED

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